

### REMARKS

1. In the above-captioned Office Action, the Examiner rejected claims 1, 8, and 13-20 under 35 U.S.C. §103(a) given Burns et al. (U.S. Patent No. 5,063,506) in view of Horie (U.S. Patent No. 5,546,564). Claims 2-7 and 9-12 were rejected under 35 U.S.C. §103(a) given Burns and Horie in view of Dudle (U.S. Patent No. 5,570,291). These rejections are traversed and reconsideration is hereby respectfully requested.

2. The Examiner stated that the 35 U.S.C. §103(a) rejection is in view of Burns, calling out U.S. Patent No. 5,063,506. Since U.S. Patent No. 5,063,506 is the Brockwell patent, the Applicant responds under the assumption that the Examiner intended to issue a 35 U.S.C. §103(a) rejection is in view of Burns (U.S. Patent No. 5,189,606) rather than Brockwell et al. (U.S. Patent No. 5,063,506).

3. Claims 1, 8, and 13-20 were rejected under 35 U.S.C. §103(a) given Burns in view of Horie. Claims 2-7 and 9-12 were rejected under 35 U.S.C. §103(a) given Burns in view of Dudle.

With respect to Burns, the Examiner quotes Burns Abstract as saying "the invention has been found to be three times more accurate than conventional architectural and engineering costing techniques" and concludes that Burns should be "effectively revealing the lowest possible cost for the array of parameters" taught by Burns. There is nothing taught or suggested by Burns that he is determining the lowest possible cost. Burns goal as stated in his abstract and column 3 is to be **accurate** is determining the **actual** costs for a construction project over time. Being accurate at determining the actual costs is unrelated to determining the lowest cost potential. Mathematically, actual costs take into account many amounts that are not the lowest potential cost for a number of reasons, for example, because actual costs always include supplier profits, and lowest potential cost do not necessarily do so.

Further, Burns is concerned with construction projects and not individual components, and the majority of his teachings relate to construction projects and would not be appropriate for individual components. Burns is concerned about obtaining estimates for budgeting purposes, not obtaining lowest cost potential estimates to negotiate with a supplier, as set forth in claim 1, for example. The present application could be applied to a construction project such as those referred to by Burns, and the present invention would most certainly come up with a

lowest cost potential that would be *significantly* lower than an application of actual cost of Burns' teachings because Burns is attempting to come up with the *actual* cost, including cost-overruns, regional labor costs, typical delays, and so forth, and thus Burns is incapable of determining the lowest potential cost. For example, Burns teaches estimating labor costs from the geographical or regional area where the construction project is being built, because Burns knows labor will only come from that region. As stated by Burns in column 3, lines 49-51, one of the capabilities of his tool is that it "Automatically adjusts the cost of each material, labor, and equipment item used in construction for regional price variations." The present application, on the other hand, would find the lowest potential cost for labor in *all* regions, not just one area, in order to find the true lowest potential cost.

By applying the lowest potential cost to all aspects of a project, the present application provides many options for reducing costs in having a component built, including pointing out that moving the project may result in the lowest cost for completing the project. Burns goal of being accurate in estimating *actual* cost runs completely counter to obtaining the lowest cost potential for a project or component, because the lowest cost potential will not be the actual cost and vice versa.

In another example, Burns states in column 3, lines 52-55 that he "Automatically adds and/or deletes material, labor, and equipment items needed to satisfy construction requirements because of geological and/or climatological variations." In trying to obtain the lowest cost potential, one would not add any amount for material, labor, or equipment because of geological and/or climatological variations because it simply would not be the lowest cost potential to add such an amount. Lowest cost potential would eliminate all increased costs due to geological and/or climatological variations, and select a cost where such conditions do not exist.

Similarly, if Burns teachings were applied to a component, the Burns estimate would be far higher than an application of the present invention. The amendment submitted by the Applicants on March 9, 2004 set forth 19 examples from Burns illustrating how Burns actual cost determination would not yield a lowest potential cost. A few of those examples are repeated below for the convenience of the Examiner.

It includes a knowledge base according to feature 5 which contains an escalation code that links the facility to the correct escalation factors. It includes a process which shows the user the available codes and allows the user to enter only valid codes. It includes a means of storing the codes and retrieving the correct

*escalation factors for use in calculating the construction cost [Column 5, lines 12-18, emphasis added].*

Escalation factors increase costs, and thus would not result in a lowest cost potential.

It includes a means according to feature 2 to identify and apply modifiers to the direct costs for different construction methods; for risk associated to the project; to adjust the project schedule; to *adjust the cost for differences in material, labor and equipment prices at different locations; for the effects of inflation over time*; to account for supervision and inspection of the construction; *pay for the design*; and pay for *unforeseen conditions* that may be encountered during construction. It includes a process that links the modifiers to the direct cost at different levels of the hierarchy structure [Column 15, lines 26-36, emphasis added].

Accounting for differences in cost based on location will not result in the lowest cost potential, unless you happen to be in the area where the lowest costs already exist. Accounting for inflation and unforeseen conditions will also escalate the amount, and would not result in a lowest cost potential.

A *regression analysis* is performed for the three major supporting facility categories by family category code using the following nonlinear equation: ... Additionally, *averages for each of the three major supporting facility categories are taken* to determine the percentage split between them [Column 27, lines 19-28, emphasis added].

By taking an average, the lowest cost potential will not be found because averaging *eliminates* the lowest value. To obtaining the lowest potential cost, the lowest value is found and the rest are discarded.

Create Modifier Sets. This section (FIG. 8, comprising FIGS. 8a-8e) of CCMAS processes modifiers to the direct costs. There are seven modifiers included in this section of CCMAS. They are for Construction Methods, Project Definition, Project Schedule, location, Escalation, Construction Management, and Project Design. ***All of the CCMAS cost data (historical, line items, etc.) is normalized to a specific location and time frame.*** This *normalization* also covers the productivity factors used to determine how much labor and equipment is used in the composite items. The modifiers are used to adjust the CCMAS costs to account for differences in construction techniques; labor productivity; costs for materials, labor, and equipment; account for supervision and inspection of the construction; pay for the design; and pay for unforeseen conditions that may be encountered [Column 42, line 62 through column 43, line 10, emphasis added].

As with estimating, normalizing does not result in the lowest cost potential because normalizing eliminates the lowest cost potential.

**Project Definition Modifier.** *This modifier is used to adjust the project for unknown conditions.* It is a risk factor to account for what stage of design the project is in and how much is known about the project by CCMAS-UNIFORMAT system. The project definition modifier factor allows CCMAS to produce a range estimate to show that the *project cost could grow to if the worst conditions come true.* The modifier consists of a series of algorithms, questions, and factors [Column 43, lines 46-54, emphasis added].

The lowest cost potential does not take into account unknown conditions because the lowest cost potential assumes no unknown conditions that would cause the cost to grow.

The above examples from Burns show that he describes a method of obtaining costs for a construction project such as building or road based on averaged, weighted-averaged, normalized, regressed, escalated, historical, actual, and geographically-fixed costs. Averaged normalized, regressed, escalated, historical, actual, and/or geographically-fixed costs will not yield a lowest potential cost.

Burns teaches of method of estimating *actual* costs. Burns does *not* teach or suggest any method that *determines the lowest potential cost* for a part, as set forth in various ways in the claims. Burns also fails to teach identifying the cost components as set forth in the claims above. Horle, which also teaches estimating and averaging to get an actual cost, and Dudle also fail to teach or suggest any method that determines the *lowest potential cost* for a part, as set forth in various ways in the claims.

Neither Burns, Horle, nor Dudle teaches or suggests determining or totaling lowest cost potential values nor an ought-to-be cost. Thus, the claims of the present invention are not taught or suggested by Burns, Horle and/or Dudle. Combining these references fails to teach or yield the invention as claimed. The combination of these references fails to teach or suggest all the elements of the claims. Further, one of skill in the art would not be motivated to make such a combination. Therefore, the present invention is not obvious in light of any combination of Burns, Horle and/or Dudle.

Thus, Burns, Horle, and Dudle fail to teach the subject matter of the independent claims 1, 2, 5, 8, 9, 13, 15, and 18. Hence, the applicant respectfully submits that claims 1, 2, 5, 8, 9, 13, 15, and 18 may be passed to allowance.

With respect to claim 17, neither Burns, Horie, nor Dudle teaches taking into account multiple designs for a component.

Furthermore, claims 3, 4, 6, 7, 10-12, 14, 16, 17, 19, and 20 are dependent upon an independent claim that is shown to be allowable. For all these reasons, the dependent claims are themselves allowable.

5. A typographical error is corrected by the above amendment to claim 8.

6. The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes that such a communication may advance the prosecution of the present application. Notice of allowance of claims 1-20 is hereby respectfully requested.

Respectfully submitted,

Date: August 5, 2004

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